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BULLETIN

OF THE

AMERICAN GEOGRAPHICAL SOCIETY.

Vol. XXXVII 1905. No. 3

ADDRESS OF PRESIDENT PEARY.

DELIVERED AT THE ANNUAL MEETING OF THE AMERICAN GEOGRAPHICAL SOCIETY, JANUARY 24, 1905.

Our meeting to-night is the first in our second half century, and we enter upon this second half century with a fine home, a valuable library, and a position of financial stability.

We have now the fundamental essentials of equipment.

Our next need is a larger membership, to permit a more vigorous prosecution of our work, and a larger fulfilment of the wide mission for which we were organized. In the effort to secure this, every Fellow who feels an interest in the Society can be of direct assistance.

It should not be difficult for every Fellow to secure an additional Fellow, and send in his or her name for nomination.

It is very gratifying to note that some of the Fellows are doing this now. Such work will most effectively supplement the work of the Council.

Nor can I refrain from inviting the attention of our Fellows to the advantages of enrolling a son or a daughter as a life Fellow in the Society.

To make our influence more widely felt, we need a membership of representative men, covering the entire country. Efforts to increase our Fellowship in this direction will be especially valuable.

I think, also, that we can with advantage form an additional grade of membership in the Society, with similar though more advanced qualifications than those required for our present Life Fellowship.

Such a grade would afford an opportunity which I believe would be utilized by a number of those interested in the work of the Society.

With increased membership and larger income, I hope to see a definite exploration fund established, to be expended with the approval of the Council, under the direction of an advisory committee.

It is for us to *initiate* as well as urge, encourage, and approve work in our field. No matter how much or how valuable work a geographical society may do in other directions, if it fails to accomplish actual work of exploration it fails to exercise its full functions.

In a social direction we can extend our influence advantageously, and solidify our membership, by an annual dinner or reception, or both, during the winter; and by an appropriate meeting during the summer.

Next season a series of informal illustrated talks in our own auditorium, alternating with our stated monthly meetings in Mendelssohn Hall, could be made instructive and interesting, and would form an agreeable and valuable intermediary between the social and scientific phases of the Society.

In connection with our medals, the capacity of our Society for encouraging geographical work would be distinctly enhanced if we had one or two second-class medals available for award to travellers, explorers, or other workers in the domain of geographical investigations who have accomplished good work and yet whose work is not of a magnitude or importance justifying the award of either of the two great gold medals of the Society.

No large sum would be required either for the initial cost of such medals, or to provide for their annual award.

THE GEOGRAPHICAL WORK OF THE WORLD IN 1904.

The most salient geographical event in this country during the past year was the meeting of the Eighth International Geographic Congress in September.

This was the first meeting of the Congress in this country, and the assembling of many eminent geographers from the principal countries of the world has resulted in a pronounced stimulus to geographical work and interest here.

It is impossible to attempt even a summary of the work of the Congress.

Four commanding resolutions were passed by the Congress, as follows:

(1) Urging upon the attention of geographers the mapping of

the world on a scale of 1:1,000,000, as proposed by Prof. Penck, of Vienna, at the Sixth Congress;

(2) Approving polar exploration, and commending north polar work to this country, proposed by Sir John Murray;

(3) Appointing a committee to consider a world census;

(4) Regarding methods in oceanography.

UNITED STATES.

In the United States the work of the Coast and Geodetic Survey and the Geological Survey is being carried on steadily. The extent of this work is such as to make it impossible to note it here. The annual reports of these surveys contain it in full.

An interesting map in Bulletin 201 of the Geological Survey, shows the extent to which our wide territory is now brought under survey control by astronomical positions and primary triangulation.

Another subject of much importance to the West is the reclamation of our arid regions. A reconnaissance survey for this purpose was commenced in 1888. The reclamation service was organized in 1902, and work was commenced in 1904.

The projects approved, for which funds are assigned, contemplate the reclamation of some two million acres—an area nearly equal to that of Delaware and Rhode Island combined. Other projects for future consideration cover millions of acres additional. The funds for this work are obtained from the sale of public lands, and these funds amount at present to some twenty-three million dollars.

An idea of the meaning and value of this work may be gained from the fact that land reclamation in the Nile Valley is estimated to have added some three hundred million dollars to the valuation of Egypt.

The origin and character of these reservoir surveys are described in the twentieth annual report of the United States Geological Survey, Part 4.

The Geological Survey has recently begun the resurvey, on a larger scale, of a number of mining districts, the present stage of development making more detailed maps necessary in the transfer of property and other details of business.

Another problem affecting wide and large interests, and one that bids fair to be perennial, is the control of the Mississippi.

The Statistical Atlas of the United States, issued by the Twelfth Census, is worthy of note, and is unique in its completeness and convenience.

Coming nearer home, the Barge Canal across New York State is a project of great interest to this city.

With a length of 350 miles, an estimated cost of 101 million dollars, capacity sufficient for one thousand ton barges, and an estimated annual tonnage when opened of 10 million tons, this canal is the largest project yet undertaken by any State.

It ranks greater than the great foreign ship canals of Manchester, Kiel, and Corinth. It is comparable in estimated cost and traffic to the Suez Canal, and is second only to the canal at Panama, of which, when completed, it will be a direct feeder, *via* New York City.

There is food for thought for the residents of New York City, in the investigations of Mr. Tuttle, indicating that since 1875 the coast in this neighbourhood is sinking at the rate of 1½ feet in a century.

ALASKA.

Turning to Alaska, it is but little more than a year (October 20, 1903) since the final adjustment of the Alaskan Boundary Question. It is not necessary to go into the details of this. The decision reached by the Tribunal was satisfactory to this country, and the adjustment removed a source of irritation between the United States and Great Britain which had existed for more than thirty years.

Another important step in Alaskan progress is its connection with the United States by cable during the year, and the extension of the telegraph and wireless lines in the country. The system comprises 2,079 miles of cable, 1,439 miles of telegraph, and 107 miles of wireless line. Some of the cable is laid in a depth of 1,700 fathoms.

A cable or wireless line across Bering Strait, and 1,500 miles of telegraph in Siberia, would connect Asia with America.

As regards the mapping of Alaska, the map of that region, on a scale of 39 4/10 statute miles to an inch, which will be issued soon by the United States Geological Survey, will mark a turning-point.

The surveys of northern Alaska by Messrs. Peters and Schrader, published in the Geological Professional Papers, Number 20, 1904, carried a belt of scientific exploration through central Alaska to the Arctic Ocean.

Mount MeKinley, the culminating-point of North America, remains still unconquered. Dr. F. A. Cook, one of our Fellows, attempted its ascent, and, though he did not reach the summit, he attained the height of 11,400 feet, and made the entire circuit of the mountain. It is reported that another attempt is in contemplation for next summer.

NORTH AMERICA.

North of us, the Canadian Geological Survey is continuing its work, largely in the Yukon District.

The Canadian Government has been active in exploiting its Arctic domain during the past eighteen months, though more in a political and commercial than a geographical mood. The *Neptune*, chartered for the purpose, wintered in Hudson Bay, and visited the northern lands as far as Cape Sabine, 78° 42′ N. Lat. The *Gauss*, purchased from the German Government, is now engaged in the same region.

The Government is continuing current observations along the southern and eastern shores of Newfoundland.

These activities are largely due to their bearing on the cherished project of a short northern sea route *via* Hudson Bay to Canada's great western grain country.

South of us, in Martinique, the aftermath of the Mont Pelé catastrophe, the so-called obelisk, and other phenomena continue to attract the interest of scientists and geographers.

SOUTH AMERICA.

In South America we have a continent which in wealth of natural products, in capacity for development, in possibilities for the future, equals, and perhaps surpasses, Africa.

That there is not the same activity there as in Africa is due to the smallness of the population (South America being the least densely-peopled of any of the continents) and the fact that the territory has for a long time been all pre-empted.

A new boundary between Brazil and Bolivia was established by treaty on December 28, 1903, amounting practically to the purchase by Brazil of some 73,000 square miles of valuable rubber territory for $10,000,000 and other valuable considerations, and thus the long dispute over the possession of the large territory known as the Acre was finally adjusted.

This was a question concerning the great rubber centre of the world, this region of southwest Amazonas, owned by Brazil, Bolivia, and Peru, and furnishing nearly two-thirds the total output of the world, valued at about $100,000,000.

Explorations are continuing in Peru, Bolivia, and Brazil, Chile and Argentina, more particularly in connection with developing the capabilities of the rivers and exploiting their valleys; and in settling and defining boundary questions, which, as rubber and other natural sources of wealth become known and accessible, become of great importance.

Another boundary dispute, that between Brazil and British Guiana, was settled in June last by the King of Italy as arbitrator.

In connection with the boundary surveys to determine the frontier between Argentina and Chile attention may be called to Sir Thomas Holdich's interesting and valuable work on "The Countries of the King's Award."

Professor Hans Meyer has been studying the glaciation of the Ecuadorian Cordilleras, including Chimborazo, Cotopaxi, Antisana, and other peaks, with gratifying results.

The geodetic work in Ecuador, under French observers, is still being carried on, comprising triangulation, levelling, and some pendulum observations.

In Bolivia the French Expedition under MM. Créqui-Montfort and De la Grange has made surveys and studies of Lakes Titicaca and Poopó.

A Government report gives eight routes over the Andes in Peru.

On one of these (The Oroya R.R.) the summit elevation of 15,680 feet is the highest in the world.

An interesting project is the Pan-American Railway, the great north and south trunk line, which, in connection with existing railways, will form a continuous all-rail route from New York to Buenos Aires, a distance of 10,471 miles. Of this distance, 7,162 miles are already completed, leaving some 3,309 miles, in various detached sections, yet to be built. This is one of two great north and south rail-routes (one in each hemisphere) now attracting attention. Hitherto the great all-rail routes of the world have been following parallels of latitude; in other words, running, in general, east and west. Now they are beginning to follow meridians.

EUROPE.

Geographical work in Europe is of necessity one of detail and careful scientific development, including the minute study and classification of coast-lines; the determination of changes and their causes; studies of former glaciation limits; studies of the movements of sand-dunes; of the exact limits of tree and other vegetation; earthquake observations; meteorology; tree-planting, etc.

Limnology, the detailed study of lakes, has been general, and is an interesting branch of investigation, Work in this direction has been carried on in Scotland, Switzerland, Hungary, Italy, Prussia, and Russia. No better examples of this work can be given than the bathymetrical surveys of Sir John Murray on the Scotch lakes, and the similar work of Forel in Switzerland.

In Austria continued earthquake observations show the frequency of shocks to be less during the past year than in any previous year. It is interesting to note that in Austria is the only double seismological station—*i.e.*, one at the surface and another 3,600 feet below in a mine-shaft.

In Russia pendulum observations carried on for the past five years are giving valuable results.

A report on Belgian Waterways gives one mile of these for every eight and a half square miles of territory. Eighty per cent. of these waterways are directly controlled by the State, and an average of three and a half million dollars annually have been expended upon them for the last twenty-five years.

Partsch and other explorers have been studying the glaciation of the Carpathians and neighbouring mountains with interesting results.

The Survey Atlas of England and Wales is one of the most conspicuous cartographic works yet carried out, and is based on the British Ordnance Survey recently completed, the most exhaustive survey as yet made by any country.

ASIA.

In Asia, the greatest of the world land-divisions, including as it does the so-called "Roof of the World," the two regions of special interest are the plateau of Tibet and the Himalayas; and the northern coast of the continent bordering the Arctic Ocean. Tibet and Lhasa, the hitherto mysterious portion of Asia, are now, as the result of the English expedition to that country, no longer a mystery—are no longer forbidden. The Workmans have been busy in the Himalayas; Profs. Davis and Pumpelly and Mr. Huntington have been doing work in central Asia to the southwest of Tibet. About Lake Issik-Kul, Prof. Davis and Mr. Huntington found conditions reminding them of our Salt Lake region in Utah. Our Mr. Nichols penetrated to within nearly a hundred miles of Lhasa, only to meet his death from pneumonia.

The long-standing controversy as to Mts. Everest and Gaurisankar has at last been settled, with Mt. Everest proved not to be identical with Gaurisankar, with which it has so long been confused.

The Russian Caspian Sea Expedition should promise valuable results, but no recent news has been heard in regard to it.

Our American traveller, Mr. Oscar T. Crosby, has made a journey in Turkestan and across the northwest corner of Tibet.

The results of the Russian expeditions to Lake Balkhash and Kosso-gol and examinations of the Sea of Aral, indicate that these bodies of water in central Asia are rising, showing in this a marked contrast to some of the lakes of Africa, which for years past have been gradually contracting.

Turning to the Arctic coast, we find a railway project under consideration from the mouth of the Obi River to the vicinity of the Gulf of Pechora, to obviate the difficulties of ice-navigation through the Kara Sea, and enable the commerce brought down the great Russian rivers to be transported to Europe by the less uncertain voyage through the White Sea.

Surveys are also being made along the Murman coast; and it is perhaps possible that later, after peace has been declared in Asia, the entire matter of the Northeast Passage, which within the last year attracted some attention as a possible route for a fleet from European to Pacific waters, may be investigated thoroughly throughout the entire extent of coast which thus far Nordenskjöld is the only navigator to have traversed.

AFRICA.

Of all the great world-divisions the one in which there is to-day the greatest activity (though in the line of development rather than exploration, for the latter is largely a matter of the past), and the one which possesses largest interest, is Africa.

Portioned out as it is among the principal European nations, each one's parcel serving as a market for its products, and perhaps in the future a home for its surplus population, we see going on there simultaneously and with great activity, and on a large scale, under a diversity of national and racial methods, the processes of development, of civilization, of empire and commerce building.

In this continent only two explorations on a large scale were carried out or reported on during the past year. One of these is Chevalier's expedition and the important discovery of the phenomena of desiccation now in progress in the Central Sudan.

The other is Lenfant's journey in the Lake Chad region, in which he proved the existence of water connection during the rainy season between that lake and the Atlantic Ocean *via* the Niger system.

Long journeys of exploration in Africa are now supplanted by more detailed studies in small areas, and these studies are constantly improving our mapping of Africa.

The British have completed the detailed survey of their coast of the Victoria Nyanza, the northern half of the shores of the Lake. The German surveys are in progress along the southern coasts; and when these are completed, we shall have a detailed map of all of the shores of the Lake, and the best map of the Victoria Nyanza will have been produced.

One of the most significant features of the development of Africa is the sinking of artesian wells by the French Military Department of the Sahara, to secure water for the irrigation which is now being extensively carried on in the Algerian Sahara and, to some extent, in the desert farther south.

It has been known for years that wide areas of water underlie the desert surface. All the oases lie in depressions of the surface, so that the water in some places comes to the top and in other places it may be reached by digging.

It is asserted by the French officials that the areas which may be reclaimed will probably support a population of 1,000,000. It has been satisfactorily proved that these waters come from the slopes of the Atlas Mountains in the north and from the Ahaggar and other ranges of the Central Sahara, which are favoured with regular summer rains. The water sinks to impermeable rock strata and makes its way for long distances under the desert surface.

Attention has been attracted during the past year to the rapid progress of Saharan exploration by the new methods of desert travel introduced by the French.

Up to two years ago French caravans used the ordinary slow camels of the desert, heavily laden with food and water supplies, and ammunition and guns for defence against the Tuareg nomads. The French found that the Tuaregs, who always escaped after their forays, picked their camels and trained them so that they cover from two to three times as much ground in a day as the ordinary pack camel.

The French enlisted the best camel-drivers of the north, ransacked all the camel herds of the Algerian Sahara, and trained selected animals to get over the ground with a lope that leaves the ordinary caravan train far behind.

The French army of the Sahara now carries no baggage train; but each camel is lightly loaded with supplies, the parties replenishing their commissariat at the oases they reach. The Tuaregs, being unable to escape from these expeditions, have been so severely defeated in their homes among the Ahaggar Mountains that they are no longer a serious menace to desert commerce.

The French, within the past two years, have sent swift expeditions to the Ahaggar Mountains in the south and far towards Timbuktu in the southwest, finding new sources of pasturage and water supply and making other interesting discoveries.

The growth of railroad-building in Africa has been rapid since 1890, and there are now about 14,250 miles in operation. The railroad to Victoria Falls on the Zambezi has been completed, and there is now a direct route from Cape Town to Victoria Falls, 1,644 miles. A permanent hotel is now being built at the Falls, which are more than twice as high as Niagara and a mile in width, affording a scene of wonderful beauty and grandeur, which cannot be observed, however, in its entirety, from any one point of view.

This is the place where the British Association for the Advancement of Science will hold its annual session this year, the first great scientific body to meet in Central Africa.

The French have completed their railroad in Senegal from the head of navigation on the Senegal River to the Niger River at Bammako. During the season of high water in the Senegal there is, therefore, now steam transportation from the Atlantic Ocean for about 600 miles east to the Upper Niger.

Trains have for several years been running regularly between Wady Halfa on the Nile and Khartum in the Anglo-Egyptian Sudan; but Khartum will soon have a more convenient outlet to the sea. Work on the new railroad is now in progress at both ends, along the old caravan route between Berber on the Nile, and Suakin, the best port on the Red Sea; and when it is completed Khartum will be separated from the sea by only 470 miles of rail routes.

Another important project is that between Stanleyville and Ponthierville on the Upper Congo, only 75 miles long, but circumventing the rapids which obstruct navigation above Stanleyville. Four thousand Congo blacks and 170 whites are now building this road, which will be completed about the end of the present year. There will then be uninterrupted steam transportation by rail and river from the Atlantic, 1,640 miles up the Congo.

The so-called "Cape to Cairo" railway project will, when it materializes, traverse Africa from north to south, connecting Cape Town with the Mediterranean by a rail route of some six thousand miles.

Existing railways in Egypt and South Africa furnish an available mileage for something over half this distance.

The past year has witnessed the beginning of colonizing expe ments among the highlands of East Africa. Several hundred colonists from Great Britain have settled on the Kikuyu plateau south of Mt. Kenia, about 6,000 feet above the sea, where they are opening farms and lands allotted to them by the Government.

These places are among the portions of tropical Africa that are destined some day to become centres of white industry and civilization.

AUSTRALASIA AND THE PACIFIC.

In Australasia and the Pacific it is interesting to note that the new Pacific cables are being used to revise Pacific longitudes.

In Tasmania recent investigations give indications of ice-sheet glaciation at low altitude in a latitude similar to that of Madrid.

The ownership of Marcus Island in the Pacific, at one time in dispute between Japan and this country, has been settled in favour of the United States.

OCEANOGRAPHY.

In the realm of the oceans (whose area is nearly three times greater than that of the land), where the observer gropes his way blindfolded, the field has only begun to be exploited, in spite of the work of Sir John Murray and others, and no one knows what undiscovered deeps may yet be found, what unknown forms of life may be brought to light.

In this field the Admiralty Expedition to the Indian Ocean, for the purpose of carrying on surveys there on the plan of the *Challenger* Expedition, is of conspicuous importance.

ARCTIC REGIONS.

Turning now to the extremities of the earth, the Polar regions, it is my sad duty to note in the Arctic the death of Baron Toll, who started from the New Siberian Islands, south for the mainland with his drivers, and has not been heard from since.

Amundsen, in his little craft "Gjöa," is, according to a letter reported to have been found by a whaler on Beechey Island, somewhere in the waters of Lancaster Sound, in his search for the magnetic pole.

The Danish expedition which crossed Melville Bay and spent the season among the Eskimo of Whale Sound, where they were seen by the whalers, retraced their steps on snow-shoes across Melville Bay to the Northern Danish settlements, and returned home.

Mr. Ziegler's expedition under Mr. Fiala is still in Franz Josef Land, though no news has been received from it, the attempts to communicate with it last summer having been rendered abortive by the heavy character of the ice.

Mr. Ziegler has recently purchased the *Terra Nova*, one of the relief ships of the British Antarctic Expedition, for a relief ship for next summer, when the Fiala party will undoubtedly be reached and brought home. There is little reason for anxiety in regard to them, as they were amply provisioned, and the fact of their non-return last summer does not necessarily mean anything serious.

The proposed expedition of the Peary Arctic Club of this city is probably familiar to most readers. The new ship for this expedition is now being built at Bucksport, Maine, and, when completed, will be the most powerful ship yet constructed for Arctic navigation and discovery. It is proposed that the Club's expedition shall start north next July.

In France, M. Bénard and the Prince of Monaco are considering an expedition which shall utilize the drift method of approach to the Pole. This plan contemplates two ships entering the ice farther to the east than did Nansen, and thence drifting over or near the Pole.

ANTARCTIC REGIONS.

In Antarctica the year has been marked by the return of all of the expeditions which, during the past two or three years, have been emulating each other in securing additional information in regard to the lands and seas surrounding the South Pole.

The efforts of these expeditions from Great Britain, Germany, Sweden, and Scotland, have made the past three years an era of unusual activity in Antarctic work.

Briefly summarized, the British Antarctic Expedition in the *Discovery*, under Captain Scott, utilizing the Victoria Land of Ross, south of New Zealand, and wintering two years under the shadow of Mt. Erebus, attained by far the highest southing, 82° 17′ S. Lat., and saw mountains extending to 83° S. Lat.

The German expedition in the *Gauss*, under Dr. Drygalski, discovered a new point in the periphery of the Antarctic Continent, near the Antarctic Circle, and during one season made valuable biological collections and magnetic and meteorological observations.

The Swedish expedition in the *Antarctic*, under Dr. Nordenskjöld, had the misfortune to lose its ship, but the party wintered on islands of the Graham Land group, south of Cape Horn. The expedition was out two years, and the discovery of a fossil flora and fossil bones of mammals opens up a new horizon in Antarctic investigation.

The Scottish expedition, under Mr. Bruce, in the *Scotia*, made two voyages in successive seasons, and has located one more point in the circumference of the south polar land, east and south of the Graham Land group.

There remains now in that region only the French expedition, under Dr. Charcot, which sailed last summer.*

As far as I am aware, it is not the present intention of these various nations to continue exploration in that region, the *Gauss*, *Terra Nova*, *Morning*, and *Discovery* having been sold, and the *Antarctic* lost.

An unusually favourable opportunity is, therefore, presented for this country to take up the work where it has been left, and, profiting by the experience and discoveries of our friends across the water, and utilizing methods and equipment which we have ourselves developed in recent years of Arctic work, carry the problems of Antarctic exploration and discovery to their legitimate conclusion.

Prof. Penck, in his summarization of the results of these various expeditions, notes that present indications point to a *seventh continent* about the South Pole, with an area equal to that of Europe, and an interior presenting conditions similar to those of Greenland.

Such a land-mass with such an interior, would present ideal conditions for the utilization of methods of ice-travel, developed in the north during the past twelve years, and would almost insure that a properly-equipped two-ship expedition sent out from this country, would attain the South Pole itself.

THE UNKNOWN.

I have touched briefly upon the work of exploration and development now going on in the world. Our maps have made us familiar with the known portions of the earth; let us look for a moment at the unknown portions. Comparatively few, it is true, and steadily decreasing, but still existent. Areas in every continent but Europe.

It is only at the Poles that great areas still remain absolutely unknown to the explorer and scientist, and the popular conception of these regions is almost as far from the truth as were the ideas of the early Phœnician navigators in regard to the terror-haunted regions beyond the Pillars of Hercules.

About the North Pole is an area of approximately 3,000,000 square miles—roughly speaking, of the size of the United States or Australia or Brazil; while round the South Pole is an area nearly three times as large—larger than South America.

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* Dr. Charcot's Expedition returned to Argentina March 5. The winter was passed in work in Palmer and Graham Land, south of Cape Horn.—R. E. P.

These regions stand to-day as a challenge and spur to every geographer, to every geographical association, and to the man in each of us.

Dr. Hugh Robert Mill, one of the foremost British geographers, in a recent able address on the "Present Problems of Geography," says:

> To begin with, the ground should be cleared by wiping off the globe the words "terra incognita." Such unknown parts of the earth now cling about the Poles alone, and that they should even do this is something of a disgrace.
>
> The other residual problems of exploration and survey are in the same case. If those who control money saw it to be their duty to solve them, they would all be solved.

I most heartily endorse Dr. Mill's statements.

In the coming chapters of this record of achievement and progress and growth let us hope that our Society will be in the front rank.

Remembering its initiation and urging of the work of a State survey in the past, the Society can repeat that action on a larger scale by urging upon the National Government the desirability of taking up Antarctic exploration where our friends across the water have left it and, profiting by their experience and results, pushing it to a splendid conclusion, and enriching our museums and our studies with a mass of new and valuable material from that yet practically unknown region.

Such a project could be urged by none better or more appropriately than this Society—and it could be urged with more than ordinary chances of success. Such action is not only the privilege but the duty of a Society such as ours, and there is no present project of larger or wider geographical interest than the one I have indicated. At the Poles alone to-day is it possible to do great pioneer work in geography.

There is another thing which, while it may seem to some an impracticable dream, is not so, and which I should like to see realized—namely, that this Society, located in the maritime centre and largest city of the Western Hemisphere, should possess a ship of its own, not large, not expensive, but capable of floating the Society's pennant in any sea on the globe.

There is no other one way in which we can more effectively take lead among geographical societies, and widen the boundaries of information in our field, than by having such a ship of our own, which, every year, under the direction of the Society, should carry on original scientific investigations in some quarter of the globe.

As I have stated, such a ship need not be expensive, and it would be possible to reduce the cost of maintenance to a nominal sum.

Two other matters are well worth our serious consideration—namely, co-operation with the commercial interests of this great city, and co-operation with the Government in its rapidly-expanding geographical interests. In these two directions lie broad avenues, by which we may continuously and permanently make our vigorous impress upon the geographical and commercial work and thought of the country.

RUBBER IN THE AMAZON BASIN.

The map printed herewith is taken from the "Beihefte zum *Tropenpflanzer*" (No. 1, Jan., 1905), the monthly published in Berlin by the Kolonial-Wirtschaftliches Komitee. This periodical covers the increasingly important field of tropical agriculture. Each number contains the results of agricultural experiment stations and reports of progress from all parts of the torrid zone, treating the German colonies with especial fulness.

The present supplement of 71 pp. gives the report of Mr. E. Ule's expedition in 1900–03 through a large part of the rubber territory of the Amazon Basin. His purpose was to study the methods of collecting rubber and the conditions of the rubber trade at the largest source of supply. His journeys took him from Pará up the Amazon and Marañon Rivers to the western line of rubber production on the eastern slopes of the Cordilleras. He ascended the Rio Negro, the great northern tributary, for over 300 miles, and made long journeys up some of the southern affluents and their tributaries, the Madeira, the Giparaná, the Juruá, and the Huallaga. His map shows the distribution of *Hevea*, which supplies the most valuable rubber exported from South America. *Hevea Brasiliensis* is the source of Pará rubber.

The distribution of rubber plants, especially *Hevea*, extends through the Amazon Basin to the Guianas and southern Venezuela. The southern half of the basin yields most of the product. Here the *Hevea Brasiliensis* thrives, the larger part of its output now coming from the Madeira, Purús, and Juruá Rivers. *Hevea Discolor*, characteristic of the black water rivers of the basin, is also important in trade. Mr. Ule describes eleven other varieties of *Hevea*, most of which have little importance in the rubber trade, though some of them are used to mix with Pará rubber.

There are no rubber forests on the Amazon as we would speak